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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/083, 861 06/28/93 DOKTOR

K M12261CUS

EXAMINER

TOPLU, L

B3M1/0406

ART UNIT

PAPER NUMBER

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16

2316

DATE MAILED:

04/06/95

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS This application has been examined  Responsive to communication filed on \_\_\_\_\_  This action is made final.A shortened statutory period for response to this action is set to expire Three month(s), -0- days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

## Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- Notice of References Cited by Examiner, PTO-892.
- Notice of Art Cited by Applicant, PTO-1449.
- Information on How to Effect Drawing Changes, PTO-1474..
- Notice of Draftsman's Patent Drawing Review, PTO-948.
- Notice of Informal Patent Application, PTO-152.
- \_\_\_\_\_

## Part II SUMMARY OF ACTION

1.  Claims 69-99 are pending in the application.Of the above, claims 72-81 AND 86-99 are withdrawn from consideration.2.  Claims \_\_\_\_\_ have been cancelled.3.  Claims \_\_\_\_\_ are allowed.4.  Claims 69-71 AND 82-85 are rejected.5.  Claims \_\_\_\_\_ are objected to.6.  Claims \_\_\_\_\_ are subject to restriction or election requirement.7.  This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.8.  Formal drawings are required in response to this Office action.9.  The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are  acceptable;  not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).10.  The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been  approved by the examiner;  disapproved by the examiner (see explanation).11.  The proposed drawing correction, filed \_\_\_\_\_, has been  approved;  disapproved (see explanation).12.  Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has  been received  not been received  been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.13.  Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.14.  Other

## EXAMINER'S ACTION

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1. During a telephone conversation with Michael Gelblum on march 21, 1995 a provisional election was made without traverse to prosecute the invention of a relational database system for retrieving a selected entity instance record, claims 69-71 and 82-85. Affirmation of this election must be made by applicant in responding to this Office action. Claims 72-81 and 86-99 withdrawn from further consideration by the Examiner, 37 C.F.R. § 1.142(b), as being drawn to a non-elected invention.

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

3. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

4. Claims 69-71 and 82-85 rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

regarding claim 69, it is unclear what is the criteria for retrieving the various records from various tables. Retrieving a piece of data from a table is equivalent to retrieving another piece of data from the table. The claims do not particularly point out what is done to locate a specific record among other records in a specific table. The difference between "a selected entity instance record" and "a specified entity instance record"

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is not clear. The words "selected" and "specified" do not indicate the flow pattern; e.g. whether the record is input or output. It is unclear whether the apparatus performs some kind of a search in the relation instance table means. The effect of retrieving a relation type record defining the specified relation type is obscure. It is not used for accessing the relation instance table means. "Said relation instance record" appears to have no clear antecedent basis since there could be more than one. The claim does not point out what identified the specific relation instance record which is retrieved. Generally, it is unclear how various means for retrieving various records differ from each other. Although the records are specified by types, identifiers etc. the means recited do not expressly use these types and identifiers to access the records.

regarding claim 70, it is unclear how the table identifier relates to the tables in claim 69.

regarding claim 71, merely retrieving an inquiry record would not accomplish anything. The claim does not point out how the inquiry table means is related to the other means. It appears to be an independent unit. The relation type and the instance record are not used for anything.

regarding claim 82, merely retrieving a specified relation type does not particularly point out what has been done to retrieve it. Retrieving one piece of data from a table is equal

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to retrieving another piece of data from the table. It is unclear what is the relationship between the relation definition table means, relation type record and the relation instance table means. As above, in the second step of retrieving it is unclear what has been done to retrieve; e.g. how the relation instance record defining the specified and selected entities have been located. The step recites desired results. The same applies to the third step of retrieving. There is nothing which would cause locating the specific entity type record. The words "specified" and "selected" do not particularly point out whether what is selected or specified is an input value or an output value.

regarding claim 83, "a relation instance table in said relation instance table means" is inferential. It reads like a table comprises of other tables and does not point out what the relation instance table means is. The claim does not state that the identifier is used to locate the record.

Regarding claims 83-85, as in claim 82, it is unclear how retrieving a piece of data from a table is different than retrieving any other data from the table.

regarding claim 84, the data for specifying the relation type is not used for anything.

regarding claim 84-85, it is unclear what is the relevance of retrieving data from inquiry means prior to retrieving relation type record or relation instance record.

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regarding claim 85, data specifying the entity is not used for anything.

5. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 69-71 and 82-85 rejected under 35 U.S.C. § 103 as being unpatentable over Shimaoka et al in view of Green.

regarding claim 69, Shimaoka et al in figure 3 shows a relation record(relation instance record) comprising a source item ID, a relation ID, an object item ID. As shown in figure 3A an item ID(entity instance record) consists of an item code(entity type) and a serial number(record identifier) (column 3 lines 48-50). The information file 10 of figure 2 is used to store item information records (entity instance table means). The relation information file 12 of figure 2 stores the relation information records (relation instance table means). In light of

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the specification, the entity definition table and the relation definition table which have entity type records and relation type records merely store the names of the files where instances of a specific entity and of a specific relation are stored respectively. In Shimaoka et al all entities are stored in one file and all relationships are stored in another file. Green on the other hand, in figure 1 shows that it is well-known to provide a table for each entity type and a table for each relation. This is also evidenced by the database join operations commonly performed in the art (see the cited references). The S# DRID and P# DRID indexes in figure 4 clearly teach a type and an identifier. Green must have an equivalent of a table where he indicates the location of S, P and SP tables (entity type definition table means and relation type definition means). Therefore, the combination of the references clearly shows means for retrieving from the relation definition table means the relation type record (retrieving in Green SP table name), means for retrieving from a relation instance table means a relation instance record (retrieving a record of figure 3 of Shimaoka et al from file 12), where the record is identified by entity type and record identifier (records identified by an item code and serial number), means for retrieving an entity type record (retrieving the location of S or P tables in Green), means for retrieving an entity instance record (means for determining from the

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relationship obtained in figure 3 of Shimaoka et al the target item and locating the file as taught by Green). It would have been obvious to one of ordinary skill in the art to store the entities and relationships by type in order to reduce the search space and Shimaoka et al clearly suggests this by using an item code to distinguish various types.

regarding claims 70 and 83, Green must retrieve some kind of an identifier to locate table S#P# of figure 4 (retrieving a table identifier) and Shimaoka et al shows in figure 3 the relationship record comprising the specified entity instance record and the selected entity instance record.

Regarding claim 71, Shimaoka et al on column 7 lines 1-47 shows inputting an inquiry record. Green also shows query codes starting on column 17 line 9 and figure 14.

regarding claim 82, as mentioned in claim 1, Green must retrieve the table name for S#P# index table of figure 4 (retrieving a relation type record from relation definition table means), Green and Shimaoka et al both retrieve the relation instances of figure 4 and relation file 12 respectively (retrieving a relation instance record wherein the record specifies the selected entity by entity type and record identifier), Green must have a table for locating the S and P tables (retrieving entity type record), and both Green and Shimaoka et al retrieve from the S/P tables and information file

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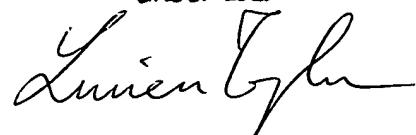
10 entity records(retrieving selected entity). It would have been obvious to one of ordinary skill in the art to store the entities and relationships by type in order to reduce the search space and Shimaoka et al clearly suggests this by using an item code to distinguish various types.

Regarding claim 84 and 85, Shimaoka et al on column 7 lines 1-47 shows inputting an inquiry record. Green also shows query codes starting on column 7 line 9 which are obtained before searching for the records.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucien Toplu whose telephone number is (703) 305-9671.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-9600.

LUCIEN U. TOPLU  
PATENT EXAMINER  
GROUP 2500



L. Toplu  
April 1, 1995